MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE

FACILITATOR'S GUIDE

1. PURPOSE

This guide provides instructions for completing the Medical Management of Chemical and Biological Casualties (MCBC) Course by videotape for continuing education credit.

2. APPLICABILITY

The MCBC Course is designed primarily for military Medical and Nurse Corps officers, physicians assistants, Medical Service Corps officers in the 67B, C, and E specialties and other medical professionals responsible for the care of chemical or biological agent casualties.

This videotape course is NOT intended to replace the on-site MCBC Course offered each quarter at the US Army Medical Research Institute of Chemical Defense (USAMRICD) and the US Army Medical Research Institute of Infectious Diseases (USAMRIID). Rather, the videotape series is designed for refresher training of Department of Defense (DoD) medical personnel and as an alternate way of obtaining the core didactic material when attendance at the on-site course is not feasible. The 6.5-day, on-site MCBC course presents the didactic material in greater detail with direct access to subject matter experts and includes a laboratory and field training exercise (FTX).

3. PROPONENT

This course is administered by the Chemical Casualty Care Division (CCCD), USAMRICD. Address correspondence to:

Commander
USAMRICD
ATTN: MCMR-UV-ZM
3100 Ricketts Point Road
Aberdeen Proving Ground, Maryland 21010-5400

Phone – (410) 436-2230 Fax – (410) 436-3086
DSN 584-2230 DSN 584-3086

E-mail – ccc@apg.amedd.army.mil
Internet – http://ccc.apgea.army.mil

4. BACKGROUND

The exportable, videotape version of the MCBC Course consists of lectures presented by the CCCD staff from the USAMRICD and by the Operational Medicine Division staff of the USAMRIID. The majority of the chemical agent lectures were filmed during the MCBC Course presented at Aberdeen Proving Ground, Maryland in March 1998. The remaining chemical lectures, i.e. Overview, Decon, and FTX Introduction were filmed after the March course. The biological agent lectures were extracted from the satellite broadcast of "The Medical Management of Biological Casualties" program presented in September 1998.

5. FACILITATOR'S ROLE

Optimally, the videotape series is presented in its entirety, as a complete course. The Field Training Exercise (FTX) portion of this course is optional. When this course is presented to a group, a facilitator must be designated to administer the course and assume responsibility for the following:

a. Complete and return the Facilitator's Course Application form (enclosure 1). ***Upon approval of the application, the course is assigned a Course ID and the Course ID along with the exam answer key is emailed to the facilitator.*** The Course ID is a unique number based on course site, start date, and end date. The course should be completed within 3 months, i.e., January-March, April-June, July-September, and October-December. See section 12 for further details.
b. Obtain videotapes. See section 7 for details.
c. Following approval of the application, act as the point of contact and liaison between course attendees and the course proponent (CCCD) before, during and after the course.
d. Provide a room of appropriate size and location for presentation of the course.
e. Distribute course materials.
f. Provide and operate the equipment necessary to view the videotapes.
g. Ensure that students view all videotapes according to the agenda (enclosure 2).
h. Proctor and score the examination (enclosure 6) and ensure against compromise of exam materials. Indicate on each Student Registration Form the Course ID, if the student completed the exam, and the resulting score.
i. Dispose of all exam papers. ***Participants are NOT permitted to keep the exam.***
j. Ensure that course registration and critique forms (enclosures 3 and 4) are properly completed and returned to CCCD.
k. Distribute Certificates to attendees.
l. If an FTX is included, provide an appropriate training area, equipment and station instructors. Brief instructors using the enclosed FTX Guide. Ensure that the FTX is safely and effectively organized and executed.

6. CONTINUING EDUCATION CREDIT

Award of continuing education credit for the videotape series is based on its presentation as a complete course. Students must view all videotapes in their entirety. Credit is not awarded for the FTX.

To receive continuing education credit for this course an attendee must:

a. Complete the registration form.
b. View the videotape series in its entirety.
c. Complete the examination.
d. Complete the critique form.
e. Return a completed registration form and critique form to the facilitator.

The facilitator will send registration and critique forms to CCCD for processing. CCCD will process the completed registration and critique forms and forward the appropriate certificates to the facilitator.

Physicians (Medical Corps officers, MD, DO) will receive a certificate that includes the following paragraph:

"The U.S. Army Medical Command is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The U.S. Army Medical Command takes responsibility for the content, quality, and scientific integrity of this CME activity. The U.S. Army Medical Command certifies that (NAME) has participated in the educational activity entitled ***Medical Management of Chemical and Biological Casualties Video Course*** on during the period (START DATE - END DATE) and is awarded 14.5 hours of category 1 credit toward the AMA Physician's Recognition Award."

Nurses (Nurse Corps officers, RN) will receive a certificate that includes the course title, date, location, and the following paragraph:

"This Educational Design I activity, assigned ANC-CHEP #I102 for 17.4 contact hours, has been approved by the US Army Nurse Corps which is accredited as an approver of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation."

All other attendees (eg. Dental and Vet Corps officers, NCO, EMT, LPN, etc.) will receive a certificate that includes the following paragraph:

"The U.S. Army Medical Command is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The U.S. Army Medical Command takes responsibility for the content, quality, and scientific integrity of this CME activity. The U.S. Army Medical Command certifies that (NAME) has participated in the educational activity entitled ***Medical Management of Chemical and Biological Casualties Video Course*** during the period (START DATE - END DATE). The activity was designated for 14.5 hours of AMA PRA category 1 credit."

NOTE: No ADDITIONAL verification of attendance or credit awarded will be provided by CCCD.

7. VIDEOTAPES

This course is supplied on a series of videotapes in VHS format. DoD personnel and organizations obtain tapes from the Defense Audio Visual Information System (DAVIS) at http://dodimagery.afis.osd.mil. After accessing the DAVIS website, click on Search and type "Medical Management of Chemical and Biological Casualties Course." Follow the screen instructions for ordering tapes. The title for each tape, along with instructor and viewing time is provided below.

If you have any difficulty obtaining tapes, contact the Chemical Casualty Care Division at (410) 436-2230 DSN 584-2230.

Non-DoD facilitators must obtain the tapes through the National Technical Information Service (NTIS). You may visit their website at http://www.ntis.gov or contact NTIS by phone at 1-800-553-6847, fax number 703-605-6900. The order number is AVA20830VOXO and the cost for the tapes is $350.00 per set.

MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE VIDEO MATERIALS

Title	Instructor	Duration (Minutes)
Introduction/Overview of Chemical Agents	LTC James M. Madsen, MC	69
History of The Medical Aspects of Chemical Warfare	Frederick R. Sidell, M.D.	36
Nerve Agents and Pretreatment	Frederick R. Sidell, M.D. LTC Jonathan Newmark, MC	86
Vesicants	COL Charles G. Hurst, MC	62
Cyanide	LTC James M. Madsen, MC	50
Pulmonary Agents	LTC Roger D. Baxter, AN	52
Incapacitating Agents	LTC James M. Madsen, MC	47
Riot-Control Agents	LTC Jonathan Newmark, MC	28
Triage and Field Management of Chemical-Agent Casualties	LTC Roger D. Baxter, AN	50
Counterterrorism and Scenarios	LTC Jonathan Newmark, MC	59
Overview of Biological Agents	LTC Theodore J. Cieslak, MC	66
Bacterial Threat - Anthrax	LTC Theodore J. Cieslak, MC	55
Bacterial Threat - Plague	LTC Theodore J. Cieslak, MC	60
Viral Threat - Smallpox	LTC Theodore J. Cieslak, MC	44
Toxin Threat - Botulinum Toxins, Ricin, Staphylococcal Enterotoxin B, Mycotoxin	LTC Theodore J. Cieslak, MC	79
Examination		30
	Approximate Total (Hours)	14.5
Optional Videos		
FTX Introduction		16
Decontamination		22
	Total Including Optional Videos (Hrs)	15

8. REGISTRATION FORMS

Duplicate the registration form (enclosure 3), front and back, and issue a form to each participant. Ensure that all forms are complete and correct. Data on the registration form is used by the CCCD to complete the course certificates. Review the sample completed registration form with participants (enclosure 5). Remind participants that missing, incorrect or illegible entries on the registration form may result in incorrect information on the certificate or delay in receipt of a certificate.

9. STUDENT REFERENCE MATERIAL

The two handbooks listed below will be provided by CCCD to each participant. These handbooks condense the core course material into an easy-reference guide, formatted to fit the cargo pocket of the BDU trousers. The number of handbooks shipped to the facilitator will be based on the estimated number of students listed on the application form. Additional reference material is available on line at http://ccc.apgea.army.mil.

Medical Management of Chemical Casualties Handbook, 3rd ed., Chemical Casualty Care Division, U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland, July 2000.

Medical Management of Biological Casualties Handbook, 4th ed., U.S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Maryland, February 2001.

10. EXAMINATION

Participants must complete the examination (enclosure 6) to receive credit for attending the course. Facilitators should use the examination key that will be emailed to you to score the exams and to review the correct answers with the participants following the exam. Facilitators may elect to have students score their own exam. Indicate on the registration form that the applicant has completed the exam and the resulting score. Collect and destroy all copies of the examination after the course.

11. FIELD TRAINING EXERCISE (FTX)

The FTX Guide that accompanies this course (provided as a separate document) is a detailed description of the FTX completed by participants of the on-site MCBC Course at USAMRICD/USAMRIID. While we recommend that participants complete the FTX, it has been made optional for the videotape course since some organizations lack the necessary personnel and equipment to offer the exercise. Continuing education credit is not awarded for the FTX completed as part of the videotape course.

12. CERTIFICATE OF COURSE COMPLETION / ATTENDANCE

Participants who have watched the video course in its entirety, and completed the exam, registration and critique form will receive a certificate of course completion, which includes the appropriate CME information. Completed registration forms and course critiques will be accepted for processing during the first two weeks of January, April, July and October each year. We can only accept materials sent by a facilitator. ***The CCCD will not process materials sent by individual participants.*** Certificates of course completion will be mailed **to the facilitator** within 30 days of the receipt, at CCCD, of registration and critique forms. **The facilitator is responsible for distributing certificates to participants.**

13. ENCLOSURES

1. Facilitator's Course Application
2. Course Agenda
3. Registration Form
4. Critique Form
5. Sample completed registration form
6. Examination

FACILITATOR COURSE APPLICATION

MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE

Facilitator Last Name: _____

Facilitator First Name: _____

Service: _____ **Grade:** _____ **Rank:** _____ **Branch:** _____

Materials and certificates will be mailed to the address below.

Address: _____

_____

_____

City: _____ **State:** _____ **Zip:** _____

Commercial Phone: _____ **DSN Phone:** _____

Email: _____

Fax: _____

Course Site (Location, city, state): _____

Course Start Date: _____ **(DD/MON/YYYY)**

Course End Date: _____ **(DD/MON/YYYY)**

Approximate Number of Students: _____

CCCD Use Only:
COURSE ID: _____

Encl 1

SAMPLE AGENDA
FOR
MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC)
VIDEOTAPE COURSE

Course Location: (Your Location)
(DATE)

DAY 1

0800	**Introduction/Overview of Chemical Agents**	**LTC James Madsen, MC**
0900	**History of the Medical Aspects of Chemical Warfare**	**Fredrick R. Sidell, M.D.**
0940	**Break**	
0950	**Nerve Agents and Pretreatment**	**Fredrick R. Sidell, M.D.** **LTC Jonathan Newmark, MC**
1130	**Break**	
1140	**Vesicants**	**COL Charles G. Hurst, MC**
1240	**Lunch**	
1340	**Cyanide**	**LTC James Madsen, MC**
1440	**Pulmonary Agents**	**LTC Roger D. Baxter, AN**
1440	**Break**	
1450	**Incapacitating Agents**	**LTC James Madsen, MC**
1540	**Riot-Control Agents**	**LTC Jonathan Newmark, MC**
1610	**Fill Out Critique**	

Encl 2

DAY 2

0800	**Triage and Field Management of Chemical-Agent Casualties**	**LTC Roger D. Baxter, AN**
0900	**NBC Counterterrorism and Scenarios**	**LTC Jonathan Newmark, MC**
1000	**Break**	
1015	**Overview of Biological Agents**	**LTC Theodore J. Cieslak, MC**
1130	**Bacterial Threat- Anthrax**	**LTC Theodore J. Cieslak, MC**
1200	**Bacterial Threat- Plague**	**LTC Theodore J. Cieslak, MC**
1240	**Lunch**	
1340	**Viral Threat- Smallpox**	**LTC Theodore J. Cieslak, MC**
1420	**Toxin Threat - Botulinum Toxins Ricin, Staphylococcal Enterotoxin B, Mycotoxin**	**LTC Theodore J. Cieslak, MC**
1700	**Fill Out Critique**	

DAY 3

0800	**Examination**
0830	**Decontamination (Optional)**
0930	**Introduction to the Field Exercise (Optional)**
1030	**Field Training Exercise (Optional)**
1230	**Fill Out Critique**

Encl 2

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STUDENT REGISTRATION FORM

MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE

SEE BELOW FOR PRIVACY ACT STATEMENT

Last Name: _____ **First Name:** _____ **MI:** ____

See Codes on Page 2 to complete the following section.

Service: _____ **Grade**: _____ **Rank:** _____ **Branch**: _____

Social Security Number: _____ **Sex: M** __ **F** __ **Foreign National: Yes No**

Street Address: _____

_____

_____

_____

City: _____ **State:** _____ **Zip:** _____

Telephone (DSN): _____ **Commercial:** _____

Job Title: _____

TO BE COMPLETED BY FACILITATOR:

COURSE ID: _____

EXAM COMPLETED: YES NO

SCORE: _____

Encl 3

SERVICE CODES

AA	Active Army
ARNG	Army National Guard
USAR	Army Reserves
AF	Air Force
AFR	Air Force Reserves
ANG	Air Force National Guard
USMC	Marine Corps
USN	Navy
USNR	Navy Reserves
PHS	Public Health Services
FN	Foreign Nationals
CIV	Civilian

BRANCH CODES

AN	Army Nurse Corps
CM	Chemical Corps
DC	Dental Corps
MC	Medical Corps
MS	Medical Service Corps
NC	Nurse Corps (Navy and Air Force)
VC	Veterinary Corps
IDC	Independent Duty Corpsman (Navy)
18D	Special Forces Medic (Army)
91B	Medic
91C	LPN
ENL	Enlisted (except for 91B and 91C)
SP	Specialist Corps (e.g. Army Physician's Assistant)
PA	Physician's Assistant (excluding Army)
MISC	(for branch codes not specified Above)

PRIVACY ACT STATEMENT

Title 5 to the U.S. Code authorizes collection of this information. The primary use of this information is by management and your personnel office to record your attendance in this course. Additional disclosures of the information may be: To the Office of Personnel Management or General Account Office when the information is required for evaluation of training; to the General Services Administration in connection with its responsibilities for records management; to a Federal, State, or local law enforcement agency when your agency becomes aware of a violation or possible violation of civil or criminal law; and to a Federal agency when conducting an investigation on you for employment or security reasons.

Where the employee identification number is your social security number, collection of this information is authorized by Executive Order 9397. Furnishing the information on this form, including your social security number, is voluntary, but failure to do so may result in misplacement of your record of attendance.

If your agency uses the information furnished on this form for purposes other than these indicated above, it may provide you with an additional statement reflecting these purposes.

Encl 3

CRITIQUE

MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE

Course ID: _____

Please rate the sections as follows:

1. Outstanding 2. Excellent 3. Good 4. Fair 5. Poor

DAY 1

LECTURE/SPEAKER	CONTENT	PRESENTATION	SUITABILITY	OVERALL
Introduction/Overview of Chemical Agents	_____	_____	_____	_____
History of the Medical Aspects of Chemical Warfare	_____	_____	_____	_____
Nerve Agents/Pretreatment	_____	_____	_____	_____
Vesicants	_____	_____	_____	_____
Cyanide	_____	_____	_____	_____
Pulmonary Agents	_____	_____	_____	_____
Incapacitating Agents	_____	_____	_____	_____
Riot Control Agents	_____	_____	_____	_____

DAY 2

LECTURE/SPEAKER	CONTENT	PRESENTATION	SUITABILITY	OVERALL
Triage and Field Management Of Chemical -Agent Casualties	_____	_____	_____	_____
NBC Counterterrorism and Scenarios	_____	_____	_____	_____
Overview of Biological Agents	_____	_____	_____	_____
Bacterial Threat- Anthrax	_____	_____	_____	_____
Bacterial Threat- Plague	_____	_____	_____	_____
Viral Threat - Smallpox	_____	_____	_____	_____
Toxin Threat- Botulinum Toxins, Ricin, Staphylococcal Enterotoxin B, Mycotoxin	_____	_____	_____	_____

Encl 4

DAY 3

LECTURE/SPEAKER	CONTENT	PRESENTATION	SUITABILITY	OVERALL
Examination	_____	_____	_____	_____
Introduction to the FTX	_____	_____	_____	_____
Field Training Exercise	_____	_____	_____	_____

****

1. Did this course satisfy your requirements? How - or why not?

2. If you were Course Director, what changes would you make?

3. Do you have any other criticisms/comments?

4. Do you feel that this program was fair, balanced and free of commercial bias?

Encl 4

SAMPLE COMPLETED STUDENT REGISTRATION FORM

MEDICAL MANAGEMENT OF CHEMICAL AND BIOLOGICAL CASUALTIES (MCBC) VIDEOTAPE COURSE

SEE BELOW FOR PRIVACY ACT STATEMENT

Last Name: DOE **First Name:** JOHN **MI:** A

See Codes on Page 2 to complete the following section.

Service: AA **Grade**: O5 **Rank:** LTC **Branch**: MC

Social Security Number: 111-11-1111 **Sex:** **M** X **F** **Foreign National:** **Yes** **(No)**

Street Address: COMMANDER
USAMRICD
ATTN MCMR UV ZM
3100 RICKETTS POINT RD.

City: ABERDEEN PROVING GROUND **State:** MD **Zip:** 21010-5400

Telephone (DSN): 584-2230 **Commercial:** (410) 436-2230

Job Title: INSTRUCTOR

TO BE COMPLETED BY FACILITATOR:

COURSE ID: _____ **EXAM COMPLETED:** **YES** **NO**

SCORE: _____

Encl 5

SERVICE CODES

AA	Active Army
ARNG	Army National Guard
USAR	Army Reserves
AF	Air Force
AFR	Air Force Reserves
ANG	Air Force National Guard
USMC	Marine Corps
USN	Navy
USNR	Navy Reserves
PHS	Public Health Services
FN	Foreign Nationals
CIV	Civilian

BRANCH CODES

AN	Army Nurse Corps
CM	Chemical Corps
DC	Dental Corps
MC	Medical Corps
MS	Medical Service Corps
NC	Nurse Corps (Navy and Air Force)
VC	Veterinary Corps
IDC	Independent Duty Corpsman (Navy)
18D	Special Forces Medic (Army)
91B	Medic
91C	LPN
ENL	Enlisted (except for 91B and 91C)
SP	Specialist Corps (e.g. Army Physician's Assistant)
PA	Physician's Assistant (excluding Army)
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PRIVACY ACT STATEMENT

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Where the employee identification number is your social security number, collection of this information is authorized by Executive Order 9397. Furnishing the information on this form, including your social security number, is voluntary, but failure to do so may result in misplacement of your record of attendance.

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Encl 5

The Medical Management of Chemical and Biological Casualties Video Course
Comprehensive Final Exam

Following are 40 questions regarding the medical management of biological and chemical casualties. Please read each question thoroughly and mark the answer ***on your answer sheet only*** that is the MOST appropriate choice.

1. The clinical manifestations of Venezuelan Equine Encephalitis can consist of the following:

a. A benign influenza-like illness
b. A severe febrile encephalitis with a 20% fatality rate
c. A febrile illness consisting of headaches, myalgias, vomiting, diarrhea, and lethargy which lasts 3-5 days and has an overall case fatality rate of less than 1%
d. All of the above

2. The biological warfare agent that the United States is most concerned that Saddam Hussein might use against our troops in the Persian Gulf is:

a. Clostridium botulinum
b. Vibrio cholerae
c. Yersinia pestis
d. Bacillus anthracis
e. Francisella tularensis

3. The following measures were instituted to protect our troops in the Persian Gulf against weaponized *Bacillus anthracis* during the Gulf War:

a. Ciprofloxacin in a 5-day blister pack was issued to each soldier to begin taking immediately after exposure and was to be continued for 30 days if a true exposure occurred
b. Soldiers deemed to be at highest risk of exposure were given two doses of the licensed vaccine two weeks apart early in January 1991
c. All soldiers in the theater would have eventually received three doses of the licensed vaccine, as more was made, if the conflict had continued for several months
d. All of the above

4. The biological threat agent with the potential for producing the greatest number of <u>deaths</u> in a battlefield field environment is:

a. Q Fever
b. Tularemia
c. Anthrax
d. Staphylococcal Enterotoxin B

5. In the event of a biological agent attack, the impact on the health care system would most likely include all except:

a. Fear and potentially panic
b. Overwhelming casualty numbers
c. Overwhelming demand for intensive care modalities
d. High potential for patient to provider spread of the disease agent

Encl 6

6. The single greatest risk for medical staff caring for Viral Hemorrhagic Fever patients is:

a. Small-particle aerosols generated from pulmonary secretions
b. Small-particle aerosols resulting from arterial blood shed at high pressure
c. Droplets that may deposit on conjunctivae
d. Needle-stick injuries
e. Acquiring illness from same vector/reservoir that infected the patient

7. Vaccines that could be useful in protecting military personnel exist for all of the following hemorrhagic fever viruses except:

a. Argentine hemorrhagic fever
b. Rift Valley fever
c. Yellow fever
d. Ebola virus

8. Which is not correct of biological toxins:

a. Can easily defeat the protective mask
b. Not easily absorbed through the skin
c. Some are more toxic than the classical chemical agents
d. As a group the toxins have numerous mechanisms of action

9. Ricin:

a. Is produced by a sea snail
b. Causes different lesions intravenously than by inhalation
c. Is much more lethal than the botulinum toxin
d. Precursor materials are scarce in tropical areas of the world

10. Which of the following is false regarding treatment of plague:

a. Chloramphenicol is the first drug of choice used to treat plague meningitis
b. Face-to-face contacts of pneumonic plague victims should be given prophylaxis with a tetracycline
c. Emergence of antibiotic-resistant Yersinia pestis is a common problem in the treatment of plague
d. Streptomycin is the drug of choice for treating both bubonic and pneumonic plague
e. Both A and C

11. Plague Vaccine, USP:

a. Is a live-attenuated whole-cell preparation yielding life-long protection via a single inoculation
b. Is proven to be effective in immunizing and protecting troops for rapid deployment (within one month)
c. Is virtually unchanged since its development 50 years ago
d. Is a component vaccine made with recombinant DNA technology

12. The most effective particle size range of an infectious aerosol is:

a. Less than one micron
b. One to five microns
c. Seven to twelve microns
d. Greater than 20 microns

13. The best time for disseminating an effective aerosol is:

a. Just before sunrise, dusk, or at night
b. During daylight in order to maximize the number of people outside of their homes and buildings
c. When the wind is blowing 20-30 mph in order to quickly and effectively distribute the infectious aerosol
d. None of the above

14. All of the following statements regarding Q fever are true, except:

a. Infection may be initiated by as few as 10 organisms
b. The incubation period is constant, regardless of whether the infecting inoculum is large or small
c. The signs and symptoms of Q fever are non-specific, so the diagnosis requires a high index of suspicion and/or compatible epidemiological history
d. Administration of the vaccine should be preceded by a skin test

15. Most BW agents produce sufficiently distinct clinical signs that a health care provider could make a reasonable clinical assessment without laboratory support.

a. True
b. False

16. Patients with illnesses due to <u>most</u> biological warfare agents can be safely cared for using Standard Precautions (gown, gloves, surgical masks, eye protection).

a. True
b. False

17. How may Investigational New Drugs (Vaccines) be administered according to FDA regulation:

a. They may be given as any other drug is given
b. They must be given under protocol with informed consent
c. They may be given under a protocol but informed consent is not required
d. They may be given by the military as any other drug is given but must be given to the general public under protocol and informed consent

18. Tularemia is considered a possible aerosol agent because:

a. It requires a low infecting dose
b. It causes a severe febrile illness with up to 30% mortality
c. It resists all known antibiotics
d. All vaccines are ineffective against it
e. Both A and B are correct

19. The lethal effects of inhalational anthrax occur <u>primarily</u> in which of the following anatomic sites:

a. Lungs
b. Kidneys
c. Mediastinum
d. Brain

20. An epidemic is likely to be a biological warfare attack if:

a. There are a record number of cases and a high attack rate
b. A low number of cases and a 100% attack rate
c. Two or more unusual diseases occur in an area in a combined epidemic
d. Both A and C are correct

21. Which of the following is true concerning LD_{50}, the Ct product, and LCt_{50}?

a. They estimate the amount of agent with a 50% chance of killing an individual
b. Effects from a given Ct product are essentially unaffected by rate and depth of breathing
c. Both LD_{50} and LCt_{50} estimate how much agent would kill 50% of an exposed group
d. As the LD_{50} and LCt_{50} get smaller, the agent potency (toxicity) decreases as well
e. The LCt_{50} of mustard is greater than the average LCt_{50} of cyanide

22. Of the following, the earliest indicator of pulmonary edema in a casualty exposed to a respiratory agent is:

a. an abnormal arterial-blood-gas (ABG) test
b. dyspnea (shortness of breath)
c. a pattern of scattered infiltrates with Kerley B lines on PA and lateral chest radiographs
d. dullness to percussion on physical examination.
e. wheezing

23. Which of the following is true concerning cyanide?

a. A dependable warning of the presence of AC is its characteristic odor of bitter almonds
b. As a blood agent, cyanide binds avidly to the oxyhemoglobin in blood
c. Cyanide reacts strongly with certain transitional metals and with sulfur donors
d. Because cyanide prevents cellular utilization of oxygen, supplemental oxygen is not indicated
e. Once breathing has stopped, a cyanide casualty should be triaged as expectant

24. In a person severely intoxicated by nerve agent, atropine administration should be titrated to which of the following?

a. Clinical reduction of bronchospasm and secretions
b. Clinical restoration of normal heart rate and blood pressure
c. Clinical reduction of skeletal-muscle fasciculations and twitching
d. Clinical reduction of gastrointestinal distress and spasm
e. Clinical resolution of miosis and eye pain

25. Differences between sulfur mustard and Lewisite include which of the following?

a. Mustard patients usually need more vigorous fluid resuscitation than do Lewisite patients
b. Lewisite is approximately 5 to 8 times more toxic than is sulfur mustard
c. The latent period of Lewisite is longer than that of sulfur mustard
d. Pulmonary edema is more likely with Lewisite than with sulfur mustard
e. Lewisite has a higher boiling point than does sulfur mustard

26. It is important to decide whether agent exposure is to vapor or to liquid because:

a. only vapors produce eye effects
b. the strength of bleach chosen depends upon whether the agent is a vapor or a liquid
c. clinical effects from liquid exposure may be delayed
d. wearing the mask may not be necessary if the agent is liquid
e. diazepam is not indicated for exposure to nerve-agent vapor

27. Which of the following is true concerning peripherally acting pulmonary agents?

a. Symptoms never precede signs
b. They cause clinical effects that mimic adult respiratory distress syndrome (ARDS)
c. Irritation of the nose and mouth with coughing and bronchospasm effectively excludes these agents
d. Their peripheral effects are probably caused by hydrochloric acid
e. In most cases, prophylactic administration of antibiotics is a reasonable medical option

28. The M256 detector ticket will detect vapors of which of the following?

a. Nerve agents and cyanide only
b. Nerve, cyanide, and vesicant agents
c. Cyanide, mustard, and only the G nerve agents
d. Vesicants and nerve agents only
e. None of the above

29. For a casualty exposed on the skin to liquid mustard two hours ago, skin decontamination:

a. should be omitted, since the damage occurred during the first two to five minutes
b. should be done using 5% instead of 0.5% hypochlorite
c. should be done only to protect health-care workers
d. should be done to inactivate mustard in blisters, since mustard in fluid is very persistent
e. should be done to protect the patient from continuing exposure and to protect health-care workers

30. Which of the following is true about incapacitating agents?

a. The agent once weaponized by the U.S. was a highly persistent liquid
b. Bradycardia (heart rate "slow as a snail") is one of the characteristic presenting signs
c. Classic central-nervous-system effects include abstract geometric hallucinations
d. Administration of a specific antidote is almost always indicated in confused or combative casualties
e. Iraq is suspected of having stockpiled large amounts of one of these agents in the 1980s.

31. Which of the following is the standard U.S. military treatment for cyanide poisoning on the battlefield?

a. Sodium nitrate followed by sodium thiosulfite
b. Amyl nitrite followed by sodium nitrate and then sodium thiosulfite
c. 100% oxygen administered concomitantly with sodium thiosulfate
d. Sodium nitrite, sodium thiosulfite, and diazepam
e. Sodium nitrite and sodium thiosulfate

32. Someone with severe systemic effects from a nerve agent should initially receive:

a. Three MARK I kits (NAAKs)
b. Diazepam (CANA)
c. Three MARK I kits (NAAKs) and diazepam (CANA)
d. One MARK I kit (NAAK)
e. Three Mark I kits (NAAKs) and an additional 2 mg of atropine

33. Which of the following statements concerning sulfur mustard is true?

a. Mustard is a recognized carcinogen
b. Body surface area involved with skin burns is highly correlated with mortality
c. Mustard dissolves quickly in aqueous solutions such as sweat
d. Hands were among the body sites most frequently burned by mustard in World War I
e. Mustard penetrates skin rapidly but typically takes several hours to damage skin cells

34. The M40 protective mask with its C2A1 canister:

a. Depends upon a HEPA particulate filter as a barrier to cyanide, G agents, and phosgene
b. Will protect the wearer against carbon monoxide and low concentrations of oxygen
c. Is to be donned, cleared, and checked in up to 15 seconds
d. Uses zinc-impregnated charcoal to adsorb molecules of chemical-agent vapor and gas
e. Is only rarely associated with increased work of breathing and shortness of breath

35. Central effects differ from peripheral effects in that central effects:

a. Seldom exhibit a latent period
b. Do not usually result from exposure to phosgene or PFIB
c. Should be suspected when a casualty reports being short of breath
d. Cause gurgling from pulmonary-edema fluid rising in the airways
e. Usually produce noise from turbulent airflow

36. At a battalion aid station (BAS), a casualty who was exposed 30 minutes ago to nerve-agent vapor and liquid and who is now reporting mild dyspnea (which is resolving) should be triaged as:

a. urgent
b. immediate
c. delayed
d. minimal
e. expectant

37. Pre-exposure administration of pyridostigmine bromide:

a. is given when ordered by the senior medical officer in the division
b. is given to create a “reserve force” of protected AChE
c. is most appropriate when the threat agent is known to be GF
d. is associated with a high incidence of debilitating side effects
e. increases survival even when antidotes are not given after nerve-agent exposure

38. Effects after cyanide inhalation typically include which of the following?

a. Miosis, bronchial hypersecretion, and nausea
b. Brief hyperventilation and initial increases in heart rate and blood pressure
c. Convulsions, vomiting, and flaccid paralysis
d. Muscle weakness, cyanosis, and secretions
e. Sudden loss of consciousness after a latent period of up to 60 minutes

39. A specific antidote for incapacitating agents is:

a. neostigmine
b. pyridostigmine
c. physostigmine
d. pralidoxime
e. none of the above

40. The clean treatment area should be:

a. upwind from the area of contamination
b. downwind from contamination in order to take advantage of detector systems in place
c. uncovered whenever possible to prevent dripping of agent from overhead cover
d. downwind from the PDS
e. as close as possible to the hot line